

WHAT IS CLAIMED IS:

1. A liquid crystal display device, including domain restriction structure for restricting so that a liquid crystal is provided between a pixel electrode and a counter electrode to which voltage is applied, and an alignment of the liquid crystal is substantially vertical when non-voltage is applied, substantially parallel when a predetermined voltage is applied, and inclined when a smaller voltage than the predetermined voltage is applied, and further a direction that the alignment of the liquid crystal is inclined is set to be a plurality of parts in each pixel when a voltage smaller than the predetermined voltage is applied, further comprising:

a drive circuit in which when the pixel is changed from a first transmittance to a second transmittance greater than the first transmittance, a voltage greater than a first target drive voltage corresponding to the second transmittance is applied on a pixel electrode in a first period of changing to the second transmittance, and the first target display voltage is applied in a second period after the first period.

2. The liquid crystal display device according to claim 1, wherein

when the pixel is changed from the first transmittance to a third transmittance greater than the second transmittance, the drive circuit applies a second target drive voltage corresponding to the third transmittance on the pixel electrode

in the first period of changing to the third transmittance.

3. The liquid crystal display device according to claim 2, wherein

5 when the pixel is changed from the first transmittance to a fourth transmittance greater than the third transmittance, the drive circuit applies a voltage greater than the third target drive voltage corresponding to the fourth transmittance on the pixel electrode in the first period of changing to the  
10 fourth transmittance, and applies the third target drive voltage in a second period after the first period.

4. A method for driving a liquid crystal display device including domain restriction structure for restricting so that  
15 a liquid crystal is provided between a pixel electrode and a counter electrode to which voltage is applied, and an alignment of the liquid crystal is substantially vertical when non-voltage is applied, substantially parallel when a predetermined voltage is applied, and inclined when a smaller  
20 voltage than the predetermined voltage is applied, and further a direction that the alignment of the liquid crystal is inclined is set to be a plurality of parts in each pixel when a voltage smaller than the predetermined voltage is applied, wherein  
when the pixel is changed from a first transmittance  
25 to a second transmittance greater than the first transmittance, a voltage greater than a first target drive voltage corresponding to the second transmittance is applied on a pixel

electrode in a first period of changing to the second transmittance, and the first target display voltage is applied in a second period after the first period.

5 5. A liquid crystal display device, wherein a liquid crystal is provided between a pixel electrode and a counter electrode to which voltage is applied, and an alignment of the liquid crystal is substantially vertical when non-voltage is applied, substantially parallel when a predetermined voltage is applied, and inclined when a smaller voltage than the predetermined voltage is applied, further comprising:

10 a drive circuit which applies a drive voltage greater than a threshold voltage of the alignment of the liquid crystal to the pixel electrode when transmittance of a pixel is set to be a predetermined value or less,

15 6. The liquid crystal display device according to claim 5, further comprising:

optical compensation structure for generating an optical characteristic reverse to the optical characteristic of the liquid crystal.

7. A liquid crystal display device according to claim 6, wherein

25 the optical compensation structure has an optical characteristic of canceling the optical characteristic generated in the liquid crystal when the drive voltage is applied

to the pixel electrode.

8. The liquid crystal display device according to claim 6, wherein

5 the optical compensation structure is a retarder.

9. The liquid crystal display device according to claim 6, wherein

the optical compensation structure is provided by  
10 laminating the pixel electrodes.

10. A method for driving a liquid crystal display device in which a liquid crystal is provided between a pixel electrode and a counter electrode to which voltage is applied, and an  
15 alignment of the liquid crystal is substantially vertical when non-voltage is applied, substantially parallel when a predetermined voltage is applied, and inclined when a smaller voltage than the predetermined voltage is applied, wherein  
when the transmittance of the pixel is set to be a  
20 predetermined value or less, a drive voltage greater than a threshold value of the alignment of the liquid crystal is applied to the pixel electrode.

11. A liquid crystal display device, including domain  
25 restriction structure for restricting so that a liquid crystal is provided between a pixel electrode and a counter electrode to which voltage is applied, and an alignment of the liquid

crystal is substantially vertical when non-voltage is applied,  
substantially parallel when a predetermined voltage is applied,  
and inclined when a smaller voltage than the predetermined  
voltage is applied, and further a direction that the alignment  
5 of the liquid crystal is inclined is set to be a plurality  
of parts in each pixel when a voltage smaller than the  
predetermined voltage is applied, further comprising:

a drive circuit which in case where the pixel is changed  
from a first transmittance to a second transmittance greater  
10 than the first transmittance, when a frame period of the first  
transmittance is continued, applies a drive voltage greater  
than a target drive voltage in correspondence with the second  
transmittance to the pixel electrode in a first frame period  
of changing to the second transmittance.

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12. The liquid crystal display device according to claim  
11, wherein

when the pixel is set to the first transmittance, the  
drive circuit applies a maximum drive voltage to the pixel  
20 electrode in the range that the first transmittance does not  
change.

13. The liquid crystal display device according to claim  
11, wherein

25 the drive circuit further applies a drive voltage greater  
than the target drive voltage in a second frame period after  
the first frame period.

14. The liquid crystal display device according to claim 11, wherein

when temperatures rise, the drive circuit compensates the temperatures so as to reduce the drive voltage to be applied to the pixel electrode in the first frame period.

15. A method for driving a liquid crystal display device including domain restriction structure for restricting so that a liquid crystal is provided between a pixel electrode and a counter electrode to which voltage is applied, and an alignment of the liquid crystal is substantially vertical when non-voltage is applied, substantially parallel when a predetermined voltage is applied, and inclined when a smaller voltage than the predetermined voltage is applied, and further a direction that the alignment of the liquid crystal is inclined is set to be a plurality of parts in each pixel when a voltage smaller than the predetermined voltage is applied, wherein

when the pixel is set to a first transmittance in a continuous predetermined frame periods and is set to a second transmittance greater than the first transmittance in a first frame period thereafter, a drive voltage greater than a target drive voltage corresponding to the second transmittance is applied to the pixel electrode in the first frame period.

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